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Health State Descriptions for Canadians

Health State Descriptions for Canadians: Musculoskeletal Diseases

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This document is one of a series that covers the major disease groupings that affect Canadians. The series is primarily intended to document the disease classifications used in the Population Health Impact of Disease in Canada (PHI) research program and help researchers to understand how the PHI estimates were calculated. It is also of interest to health professionals, advocacy groups, and individual Canadians who are looking for an overview of how living with musculoskeletal diseases affects day-to-day functioning.

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Statistics Canada
Health Analysis and Measurement Group

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Note of appreciation

Canada owes the success of its statistical system to a long-standing partnership between Statistics Canada, the citizens of Canada, its businesses, governments and other institutions. Accurate and timely statistical information could not be produced without their continued cooperation and goodwill.

Context: Health state descriptions for Canadians

This document provides standardized descriptions for the main health states associated with the progression and treatment of a disease. These descriptions are the first step in measuring how living with a disease and its treatment affects health-related quality of life in terms of physical, mental, and social well-being.

Underlying this approach is a new tool to measure functional health. Among other attributes, pain, limitations to physical functioning, or anxiety can limit an individual's ability to participate in day-to-day activities. We classify these using the Classification and Measurement System of Functional Health (CLAMES), with 11 such attributes that span physical, social and mental well-being. For each attribute, there are four or five levels ranging in severity from no limitations in the attribute to severe limitations. Level 1, for instance, represents no limitations; for the attribute describing pain and discomfort it would read "generally free of pain and discomfort." Table 1 shows the complete list of levels for each attribute.

For each health state, we describe a "typical" case, based on a combination of literature review and expert consultation. Although every individual's experience of a given disease will be unique, creating these general descriptions is necessary for measuring health at the population level.

The first step in this process involves conducting an extensive review of the literature on a particular disease, in order to collect information on the main types of the disease, the usual progression, symptoms, and resulting functional limitations, and typical treatment options and their effects.

This evidence is then synthesized in order to create the health state classifications. Essentially, each health state is classified according to 11 CLAMES attributes to represent its overall consequences for functional health. In this way, a large amount of information on the typical experience of a disease is condensed into a more manageable form, which facilitates measurement of the impact of the disease on the population. Next, in order to ensure their clinical accuracy, the health state descriptions and classifications are reviewed by medical experts and revised accordingly.

The classifications are used to elicit preference scores from panels of Canadians based on techniques grounded in utility theory. Preference scores, which indicate the relative preference for a health state compared with full health, help us understand how Canadians view the various aspects of functional health. Along with data on incidence and duration, preference scores contribute to estimates of the impact on the Canadian population of both disease and risk factors that contribute to them.

Measured in terms of years of life lost to premature mortality and year-equivalents of reduced functioning due to the disease, these estimates allow us to determine how many years of life—and how many years of healthy living—are lost due to specific diseases and risk factors. They provide answers to questions such as "what would be the impact of reducing obesity on the health of Canadians?" both in terms of lives saved and in terms of increased health over their lifespan.

For further details on the Population Health Impact of Disease in Canada (PHI) research program, the process of creating the health state descriptions and classifications, and the development of population estimates to which they contribute, please consult the PHI website at http://www.phac-aspc.gc.ca/phi-isp/index.html.

Table 1
Classification and Measurement System of Functional Health (CLAMES)

Core attributes

Pain or discomfort (PD)

1 Generally free of pain and discomfort
2 Mild pain or discomfort
3 Moderate pain or discomfort
4 Severe pain or discomfort

Physical functioning (PF)

1 Generally no limitations in physical functioning
2 Mild limitations in physical functioning
3 Moderate limitations in physical functioning
4 Severe limitations in physical functioning

Emotional state (ES)

1 Happy and interested in life
2 Somewhat happy
3 Somewhat unhappy
4 Very unhappy
5 So unhappy that life is not worthwhile

Fatigue (FA)

1 Generally no feelings of tiredness, no lack of energy
2 Sometimes feel tired, and have little energy
3 Most of the time feel tired, and have little energy
4 Always feel tired, and have no energy

Memory and thinking (MT)

1 Able to remember most things, think clearly and solve day-to-day problems
2 Able to remember most things but have some difficulty when trying to think and solve day-to-day problems
3 Somewhat forgetful, but able to think clearly and solve day-to-day problems
4 Somewhat forgetful, and have some difficulty when trying to think or solve day-to-day problems
5 Very forgetful, and have great difficulty when trying to think or solve day-to-day problems

Social relationships (SR)

1 No limitations in the capacity to sustain social relationships
2 Mild limitations in the capacity to sustain social relationships
3 Moderate limitations in the capacity to sustain social relationships
4 Severe limitations in the capacity to sustain social relationships
5 No capacity or unable to relate to other people socially

continued on next page...

Supplementary attributes

Anxiety (AN)

1 Generally not anxious
2 Mild levels of anxiety experienced occasionally
3 Moderate levels of anxiety experienced regularly
4 Severe levels of anxiety experienced most of the time

Speech (SP)

1 Able to be understood completely when speaking with strangers or friends
2 Able to be understood partially when speaking with strangers but able to be understood completely when speaking with people who know you well
3 Able to be understood partially when speaking with strangers and people who know you well
4 Unable to be understood when speaking to other people

Hearing (HE)

1 Able to hear what is said in a group conversation, without a hearing aid, with at least three other people
2 Able to hear what is said in a conversation with one other person in a quiet room, with or without a hearing aid, but require a hearing aid to hear what is said in a group conversation with at least three other people
3 Able to hear what is said in a conversation with one other person in a quiet room, with or without a hearing aid, but unable to hear what is said in a group conversation with at least three other people
4 Unable to hear what others say, even with a hearing aid

Vision (VI)

1 Able to see well enough, with or without glasses or contact lenses, to read ordinary newsprint and recognize a friend on the other side of the street
2 Unable to see well enough, even with glasses or contact lenses, to recognize a friend on the other side of the street but can see well enough to read ordinary newsprint
3 Unable to see well enough, even with glasses or contact lenses, to read ordinary newsprint but can see well enough to recognize a friend on the other side of the street
4 Unable to see well enough, even with glasses or contact lenses, to read ordinary newsprint or to recognize a friend on the other side of the street

Use of hands and fingers (HF)

1 No limitations in the use of hands and fingers
2 Limitations in the use of hands and fingers, but do not require special tools or the help of another person
3 Limitations in the use of hands and fingers, independent with special tools and do not require the help of another person
4 Limitations in the use of hands and fingers, require the help of another person for some tasks
5 Limitations in the use of hands and fingers, require the help of another person for most tasks

Musculoskeletal diseases

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Note to reader

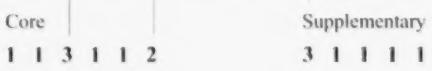
How to read the classification:

Health states are classified using 11 attributes, each with 4 or 5 levels. Level 1 indicates no limitations, while level 4 or 5 are the most severe limitations. **Please note that these levels are a shorthand for the classification: they are not measurements on an interval scale.*** A complete list of the attributes and levels appears as Table 1.

As an example, we can look at two health states, the first describing the health state at diagnosis for cancers with very good prognosis and the second describing the health state for a more advanced cancer during the last month of life, during terminal care.

Individuals with early stage breast cancer (a very good prognosis) could be described by the following:

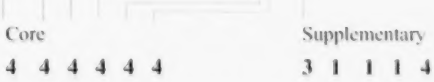
Somewhat unhappy (level 3 of Emotional State)
Mild limitations in the capacity to sustain social relationships (level 2 of Social Relationships)
Moderate levels of anxiety experienced regularly (level 3 of Anxiety)



By contrast, the following describes terminal care:

Severe pain or discomfort (level 4 of Pain or Discomfort)
Severe limitations in physical functioning (level 4 of Physical Functioning)
Very unhappy (level 4 of Emotional State)
Always feel tired, and have no energy (level 4 of Fatigue)
Somewhat forgetful, and have some difficulty when trying to think or solve day-to-day problems (level 4 of Memory and Thinking)
Severe limitations in the capacity to sustain social relationships (level 4 of Social Relationships)
Moderate levels of anxiety experienced regularly (level 3 of Anxiety)
Limitations in the use of hands and fingers, require the help of another person for some tasks (level 4 of Use of Hands and Fingers)

This is represented by



Classification of the major health states in the progression and treatment of musculoskeletal diseases are provided in the Summary table.

* For instance, the difference between level 1 and level 2 is not the same as between level 3 and level 4. In addition, attributes are not equally important in terms of health state preferences. For more information on health state preferences developed from these scores, please see http://www.phac-aspc.gc.ca/phi-isp/index.html.

Summary table:
Classification of health states related to musculoskeletal diseases

Health state	Attribute and level										
	Pain or discomfort	Physical functioning	Emotional state	Fatigue	Memory and thinking	Social relationships	Anxiety	Speech	Hearing	Vision	Use of hands and fingers
Back pain											
acute low back	4	3	2	2	1	3	1	1	1	1	1
chronic low back*	3	3	2	2	1	2	1	1	1	1	1
acute neck pain	3	3	2	2	1	2	1	1	1	1	1
Repetitive strain injury (chronic)*											
of the hand	3	2	1	2	1	1	1	1	1	1	3
of the elbow	3	2	1	2	1	1	1	1	1	1	2
of the shoulder	3	3	1	2	1	1	1	1	1	1	1
Osteoarthritis*											
of the hand(s)	3	2	1	1	1	1	1	1	1	1	3
of the lower extremities (hip and knee)	3	3	2	1	1	2	1	1	1	1	1
Rheumatoid arthritis											
acute episode	3	3	3	3	1	2	2	1	1	1	4
chronic active	2	2	2	2	1	1	1	1	1	1	2
advanced damage	2	3	4	3	1	3	3	1	1	1	4
Systemic lupus erythematosus											
acute episode	3	2	3	3	2	2	2	1	1	1	3
chronic active	2	2	1	2	1	1	2	1	1	1	2
Fibromyalgia (chronic)	3	2	3	3	4	2	3	1	1	1	1

* The health state for chronic low back pain also applies to repetitive strain injury of the back and osteoarthritis of the spine.

Introduction

The musculoskeletal system consists of bones, muscles, tendons, ligaments, joints, cartilage, and other connective tissue. These components all work together to provide form, stability, and movement to the human body. Diseases of the musculoskeletal system may result in the inability to walk, sit, or even breathe, and have a substantial impact on the health of Canadians. Musculoskeletal diseases are generally accompanied by pain (ranging from mild to severe), limitations in physical functioning, and fatigue. Activities of daily living, such as social and work commitments are often restricted. The functional and social limitations associated with musculoskeletal diseases often have emotional consequences as well, notably anxiety and depression.

This document presents health states that describe and classify the functional limitations associated with selected musculoskeletal conditions. The musculoskeletal conditions having the most impact on population health will be presented: back pain, repetitive strain injury (RSI), osteoarthritis (OA), rheumatoid arthritis (RA), systemic lupus erythematosus (SLE), and fibromyalgia. Other musculoskeletal conditions that are more common yet have a comparatively low impact on functional health (e.g., gout) will not be presented.

Three health states are presented for back pain based on duration of the pain and location on the spine: acute neck (cervical) pain, acute low (lumbar) back pain, and chronic low back pain. The causes of back pain are generally biomechanical in nature, aggravated by improper lifting techniques or poor muscle tone. Back pain can also occur from inflammation in the spine, a particular trauma, or from another underlying medical condition. The description for chronic low back pain also applies to other conditions that have similar functional limitations, such as osteoarthritis of the spine, ankylosing spondylitis, degenerative disc disease, and repetitive strain injury of the back.

Repetitive strain injury (RSI) refers to a range of conditions caused by repetitive movements and force, awkward postures, and work-related hazards. RSI can result in functional limitations described as three health states—RSI of the hand, elbow, and shoulder—as well as the health state for chronic back pain. Occupational overuse syndrome can be considered a subset of RSI, since a substantial proportion of RSIs stem from work-related activities involving repetitive movements. However, we do not make a distinction between repetitive strain injuries and occupational overuse disorders because the consequences for functional health are similar, and are not necessarily the result of a work-related activity. Repetitive strain injury is not considered in the International Classification of Diseases—version 9 (ICD-9) coding,[1] although common disorders that result from RSI have their own code (for example, Carpal Tunnel Syndrome is ICD-9 354.0).

Osteoarthritis (OA) is characterized by the breakdown of cartilage in a joint, and will be discussed here in terms of the most common areas affected: the hands and lower extremities (hip and knee). OA of the spine is also common; the associated functional limitations are presented in the health state for chronic back pain.

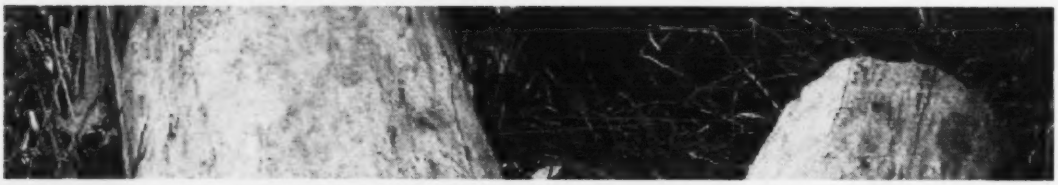
Rheumatoid arthritis (RA), a chronic disease in which the body's immune system attacks healthy joint tissue rather than foreign cells, will also be discussed here. This disease is presented as three health states because RA has a waxing and waning pattern in which individuals tend to go through periods of more or less active inflammation; most individuals with RA have some degree of inflammation on an ongoing basis (chronic active inflammation), but experience periods when symptoms flare up (acute episodes). Additionally, due to the chronic, degenerative nature of the disease, we describe the typical health state following years of inflammation and damage to the joints (advanced damage). Remission is also possible, but we do not describe this health state because the disease is almost or completely inactive and therefore the functional limitations are negligible.

Systemic lupus erythematosus (SLE) is an autoimmune disease in which the immune system attacks the tissues and organs of the body. It is the most common type of lupus (70% of cases[2]) and affects approximately 15,000 Canadians,[3] mostly women, often at young ages. Some individuals have a more limited form of the disease, such as subacute cutaneous lupus erythematosus, drug-induced lupus erythematosus, neonatal lupus (occurring in newborn babies of women with SLE), and discoid lupus (when only the skin is involved). These forms will not be described in this document. When the disease involves multiple parts of the body (beyond the skin), the condition is called systemic lupus erythematosus (SLE). SLE can also affect almost any internal organ in the body (brain, nerves, kidneys, lungs, heart, eyes, gut and bowels), often leading to severe complications, some of which will be presented in other documents in this series. The most important of these complications are kidney involvement (Genitourinary Diseases); involvement of the brain or nerves, referred to as neuropsychiatric lupus; and heart involvement (Cardiovascular Diseases). Similar to RA, the disease is usually waxing and waning in nature, sometimes with progressive damage to vital organs over time. Two health states are presented for SLE to capture periods of acute exacerbations (flare-ups), and periods of chronically active disease where a low level of symptoms is present on an ongoing basis, but the disease is not in a flare-up. The functional limitations associated with progressive damage depend on the organ(s) affected and the severity of the damage, therefore, this health state will not be described because it is highly variable. Periods of remission are also possible with SLE (although rare); during this stage, the disease is almost or completely inactive and thus will also not be described here.

Fibromyalgia is a chronic condition of the soft tissues characterized by widespread pain and fatigue. It affects approximately 3% of Canadians,[4,5] with females comprising the majority of cases. Fibromyalgia is a fairly recent term and the condition is not classified in the ICD-9 coding. However, it was previously referred to as non-articular rheumatism or fibrositis,[6] and is thus

classified under rheumatism, unspecified and fibrositis (ICD-9 729.0). Fibromyalgia is classified in the ICD-10 under musculoskeletal diseases, soft tissue disorders, rheumatism, unspecified (M79.0).[7]

Osteoporosis is a disease of the musculoskeletal system (ICD-9 code: 733.0) in which the bone deteriorates (i.e., becomes thin and brittle) over time, causing the bone to become highly susceptible to fracture. Approximately 1 million Canadians suffer from the disease, and 80% are women.[8] A health state for osteoporosis is not included in this chapter because it is generally asymptomatic until a fracture occurs. Fractures are included in another document in this series (Injuries).



Back pain

Back pain can occur at any point of the spine, and is characterized by a range of symptoms including pain, muscle tension or stiffness, weakness in the legs or feet, and a possible tingling or burning sensation, often traveling down the legs (sciatica). It is often caused by stresses on the muscles and ligaments that support the spine. Thus, the most common site affected is the lower back because it bears the most weight and physical stress.

Back problems are among the most common chronic conditions in Canada.[9] Four out of five adults will experience at least one episode of back pain at some time in their lives,[10-13] although occurrence is most often between the ages of 30 and 50.[14] Back problems appear with equal frequency in men and women. Back pain is generally mechanical in nature, or a result of a trauma or another underlying medical condition. For example, a herniated (bulging, slipped) disc occurs when the cushion between two vertebrae of the spine pops out of place and bulges into the spinal canal, putting pressure on the nerves. If pressure is applied to the sciatic nerve (the main nerve to the leg), severe pain radiates down the buttocks and the leg to below the knee; a condition known as sciatica. Another example is degenerative disc disease (ICD-9 code: 722.6), a disorder associated with aging; specifically, wear and tear over time result in a loss of disc height, thereby reducing the disc's ability to act as a cushion for the vertebrae. Back pain may also be due to inflammation in the spine. Ankylosing spondylitis (ICD-9 code: 720.0), for example, is a progressive, inflammatory disease that affects the joints between the vertebrae of the spine. Over time, the disease spreads along the spine, and eventually causes the affected vertebrae to fuse together, resulting in progressive loss of mobility and loss of function.

The cause of back pain, however, is not always apparent;[11] in fact, in approximately 85% to 90% of individuals with back pain, no specific cause can be identified.[12,15] Contributing factors include poor muscle tone, especially in the back and abdominal muscles; sedentary lifestyle; obesity; smoking; poor posture; and in particular, improper or heavy lifting. There is also evidence suggesting that psychosocial factors (e.g., chronic stress and depression) are determinants of back pain.[16,17]

Both low back pain (pain in the lumbar region of the spine) and neck pain (pain in the cervical region) will be described in this section. Symptoms may be acute, lasting six weeks or less, or chronic, lasting longer than three months. Generally, symptoms of neck and back pain include pain that varies in intensity, at times described as "unbearable."[10] This pain interferes with social roles and activities because of concern that the activity will increase the pain or cause further injury. Stiffness and tension are also commonly experienced. While there can be considerable variation in the underlying causes of both back and neck pain (i.e., biomechanical, ankylosing spondylitis, degenerative disk disease, etc.), the ultimate consequences for functional health are similar; therefore, the health states presented in this section are considered to summarize the impact of the pain on daily living, regardless of its actual cause.

Treatment is aimed at alleviating pain and restoring proper function and strength to the back. Bed rest for the first one or two days will reduce the symptoms, and applying heat or ice to the affected area will improve blood flow, reducing inflammation. Resuming normal activities as soon as possible is regarded as the best way to cope with the pain as it will prevent stiffness and keep the back flexible and strong. Pharmacological options include non-steroidal anti-inflammatory drugs (NSAIDs) or muscle relaxants. Pain killers (analgesics) are also a key part of a typical treatment regimen; for example, acetaminophen in addition to NSAIDs. Efforts for prevention include losing weight if obese, regular exercise, strengthening the back and abdominal muscles, maintaining correct posture, lifting by bending at the knees rather than at the waist, avoiding standing or working in any one position for too long, and quitting smoking.

Acute low back pain
ICD-9 code: 724.2

Description

Acute low back pain is usually defined as pain experienced for six weeks or less, and is more common than chronic pain. Acute low back pain is commonly described as a very sharp pain or dull ache, usually felt deep in the back, and can be more severe in one area than another. Symptoms also include limited flexibility and/or range of motion, or an inability to stand straight, especially if sciatica is present. Most cases have no known cause; they can result from an injury or trauma to the lower back or a disorder such as ankylosing spondylitis or a herniated disc. Treatment of the acute episode is primarily aimed at relieving muscle spasms and pain.

Acute low back pain is generally severe; often activities are reduced or avoided because of concern the activity will increase the pain or cause further injury. Furthermore, performing normal daily tasks can be difficult due to the limited range of spinal movement or due to the pain itself. People with acute back pain are often unable to work, and even if they can work, they may be less productive. The pain may be so severe that it can interfere with sleep, resulting in periods of fatigue. Pain may also interfere with social roles and functioning; some activities may need to be avoided altogether.

Classification

PD	PF	ES	FA	MT	SR	AN	SP	HE	VI	HF
4	3	2	2	1	3	1	1	1	1	1

Chronic low back pain
ICD-9 code: 724.2

Description

Chronic low back pain is usually described as deep, aching, dull or burning pain in the area of the low back or traveling down the legs, and lasts longer than three months. Pain is worse while sitting too long in one position, driving, spending long periods bending over, lifting, bending or pulling (or doing physically demanding work), and when not exercising regularly. Treatment is mainly directed toward alleviating the causes of the pain, muscle strengthening, and preventing actions that can aggravate pain.

The functional limitations associated with chronic low back pain are similar to those linked to acute low back pain. For example, moderate pain or discomfort and some fatigue are experienced, as well as difficulties lifting objects and moving about. The emotional state is often affected, in part due to the frustration that results from living with constant pain. Depression is also common in individuals with chronic pain.[13] In addition, the pain may affect the capacity to sustain social relationships due to avoidance of certain activities.

Classification

PD	PF	ES	FA	MT	SR	AN	SP	HE	VI	HF
3	3	2	2	1	2	1	1	1	1	1

Acute neck pain
ICD-9 code: 723.1

Description

Cervical neck pain is generally acute, lasting six weeks or less. The severity of symptoms and limitations are similar to acute low back pain: moderate levels of pain and discomfort, moderate limitations in physical functioning and occasional periods of fatigue. Pain and stiffness can cause limited range of motion in the neck; therefore driving, working, or even sleeping may be difficult. Pain may affect social relationships as well.

Classification

PD	PF	ES	FA	MT	SR	AN	SP	HE	VI	HF
3	3	2	2	1	2	1	1	1	1	1

Repetitive strain injury

Repetitive strain injury (RSI) is a term that refers broadly to a range of conditions that are usually caused or aggravated by repetitive motions, forceful movements, awkward postures, and ergonomic hazards (such as poor workstation design). RSI is characterized by discomfort or persistent pain in the muscles, tendons, joints, and other soft tissues. The sites commonly affected are the hands, elbows, shoulders, and back, although the lower limbs may also be involved. This section will provide health states for individuals who are suffering from RSI involving the hand, elbow, or shoulder. The health state presented above for chronic low back pain is also representative of functional limitations associated with RSI involving the back.

In 2000/2001, over two million Canadians had a repetitive strain injury serious enough to limit their normal activities, and 55% of these injuries were caused by work-related activities.[18] Contributing factors include excessive work rates (and inadequate rest breaks); badly designed equipment, tools, machinery, and furniture; poor workstation layout that requires bending, twisting or stretching to perform a single task; chairs, desks and benches that are not suitable to a person's height; and lack of job variation.

There is no gold standard test for diagnosing RSI; diagnoses are generally made based on the symptoms. Symptoms can vary, but often include pain, numbness, tingling and a feeling of heaviness, restricted movement and weakness in or around the muscles of the affected site. In the first stage, the affected limb aches and is weak while being used, but this is relieved by adequate rest. As the condition progresses, symptoms persist even at night. Eventually, muscles and tissues will become more tender, resulting in severe pain and potentially, loss of use. Rest and/or sleep may be disturbed and the ability to perform even light duties may be restricted. If this stage persists for months or years, depression may develop, as well as anxiety due to the possibility of permanent damage. It is important to note, however, that many RSI cases are only acute and self-limited, resolving themselves once the precipitant (i.e., the problem-causing activity) is discontinued and never evolving into a chronic condition with ongoing pain and functional limitations. If the symptoms do not spontaneously subside after the offending activity is removed, a number of treatment options exist, including NSAIDs; physical treatment such as splinting, casting, icing, elevation, and compression; and avoiding activities that cause discomfort. Cortisone injections can also be helpful in the initial acute phase. Some other common treatments include physiotherapy, vibration, massage, and acupuncture. Corrective surgery is rare and typically used only as a "last resort." Permanent damage may result if nothing is done to eliminate or reduce the injury or its cause. In general, the longer the duration of symptoms prior to discontinuation of the problem-causing activity, the higher the risk of developing a more treatment-resistant condition. The following descriptions apply only to established chronic cases of RSI, which have a long-term impact on population health.

Repetitive strain injury of the hand, chronic
No ICD-9 code

Description

An RSI of the hand is characterized by pain, numbness, tingling, muscle weakness, and occasionally, swelling in the wrist, hand, or fingers. It can affect one or both hands, depending on the cause of the injury and which hand is overused. It may become difficult to hold objects or tools in the hand(s), affecting the ability to function at work or at home. Symptoms include numbness, tingling, an aching sensation and pain in the hand and fingers and sometimes wrist, often worse at night. Disturbed sleep results in occasional periods of fatigue. Carpal tunnel syndrome (ICD-9 code: 354.0) is the most common RSI of the hand; tendonitis (inflamed and sore tendons of the hand) is also common, such as de Quervain tenosynovitis (ICD-9 code: 727.04) which affects the thumb.

Classification

PD	PF	ES	FA	MT	SR	AN	SP	HE	VI	HF
3	2	1	2	1	1	1	1	1	1	3

Repetitive strain injury of the elbow, chronic
No ICD-9 code

Description

In chronic RSI of the elbow, pain results from overuse of the wrist, either repetitive extension (tennis elbow) or flexion (golfer's elbow) of the wrist. Pain often radiates down the forearm, making it difficult to extend and flex the wrist, resulting in physical limitations. It can also decrease grip power. The two most common injuries are "tennis elbow," affecting the extensor muscles of the wrist and causing pain on the outside of the elbow, or "golfer's elbow," affecting the flexor muscles of the wrist and causing pain on the inner part of the elbow (both are medically termed epicondylitis, but can also be called tendonitis; ICD-9 code: 726.32).

Classification

PD	PF	ES	FA	MT	SR	AN	SP	HE	VI	HF
3	2	1	2	1	1	1	1	1	1	2

Repetitive strain injury of the shoulder, chronic
No ICD-9 code

Description

In chronic RSI of the shoulder, the shoulder is painful to move (especially lifting the arm at or above the level of the shoulder) and it may feel stiff and weak. Movement of the shoulder is initially limited because of pain, but if this persists for a long time, and the shoulder is not moved by doing stretching or range of motion exercises, the shoulder may permanently lose some of its mobility. Decreased use of the arm over time can lead to further muscle weakness. Sleep may be disturbed, resulting in periods of fatigue. Examples of RSIs to the shoulder are rotator cuff tendonitis (inflammation of the tendons that move the shoulder [rotator cuff]) or bursitis (inflammation of the subacromial bursae adjacent to the rotator cuff tendons), and injury (rupture of one or all of the rotator cuff tendons). These are caused by repetitive overhead movements of the shoulder (such as throwing a baseball, swimming the crawl, or repetitive lifting of the arms).

Classification

PD	PF	ES	FA	MT	SR	AN	SP	HE	VI	HF
3	**3**	**1**	**2**	**1**	**1**	**1**	**1**	**1**	**1**	**1**

Osteoarthritis

Osteoarthritis (OA) is a joint disease that mostly affects the cartilage (the slippery tissue that covers the ends of bones in the joint), although other joint structures may also be involved (e.g., the synovial fluid that provides lubrication to the joint and keeps the cartilage smooth). Over time, the cartilage can break down and wear away, causing the unprotected bone ends to rub against one another, resulting in the breakdown of the joint structure. This process may take decades, with the complete destruction of the cartilage occurring in end-stage OA. The symptoms of OA may start before there is damage to the cartilage. As OA progresses, there is increased pain or swelling, limitations in motion at the joint, stiffness, and/or the formation of bone spurs (tiny growths of new bone). OA can affect any joint, but usually affects the hands and weight-bearing joints such as hips, knees, and spine. This section will describe the implications for chronic osteoarthritis of the hand and the lower extremities (including OA of the hip and/or knee). The limitations associated with osteoarthritis of the spine are described and classified in the health state for chronic low back pain.

OA is the most common type of arthritis and is one of the leading causes of functional limitations in the elderly. It affects 10% of Canada's population.[4] Although the prevalence of OA is higher in men before age 45, and higher in women after age 55, men and women are equally affected when all ages are considered.[19,20] By the age of 70, OA is present in most people.[4,21] Symptoms, which involve the area around the joints, usually come on slowly and can range from mild to very severe. Deep, aching joint pain is the earliest symptom, with mild joint stiffness in the mornings. The pain is generally worse following use of the affected joint but can be relieved by rest; long periods of inactivity, however, can also result in increased stiffness that resolves with moving the joint. As OA progresses, joint motion diminishes and there is significant tenderness around the affected joint. The pain also worsens (initially the pain is only with use of the joint; over time the pain becomes constant, even at rest, and is worse at night, preventing sleep). These problems make it hard to move around and to do everyday tasks, such as opening a jar or walking up stairs. Despite these many challenges, however, most people with OA can lead active lives with proper management of the condition.

The exact cause of osteoarthritis is unknown, although it is associated with the aging process (it is also known as degenerative joint disease). However, OA is not a product of normal aging; rather, it is a product of exaggerated or accelerated aging (where the normal repair process becomes abnormal and fails to regenerate the cartilage normally). Degeneration of the joint may begin as a result of trauma to the joint or repetitive strain. Weight-bearing also plays a significant role; being overweight increases the risk of OA because it puts stress on joints such as hips and knees. Other risk factors include mechanical stress (repetitive high-impact activities or repetitive deep knee bending), endocrine and metabolic diseases, high

bone-mineral density, and heredity (especially in OA of the hand). An initial diagnosis is made based on a physical exam and symptom history, and subsequently confirmed via x-rays. In addition, blood or joint fluid tests can sometimes be used to rule out other diseases although they are unable to verify the presence of OA.

Treatment focuses on decreasing pain and improving joint movement. Exercise helps reduce pain and improve function and can also help maintain a healthy weight, resulting in less strain on the joints. Range of motion exercises and muscle strengthening exercises will improve the muscles surrounding the joint, providing more stability. Rehabilitation techniques, including bracing and heat/cold applications, are also useful. Patient education of self-management strategies to learn how to cope with the pain and functional limitations are also important adjuncts to treatment that improve quality of life. Pharmacological treatment includes acetaminophen, NSAIDs, injection of cortisone into the joints, and nutritional supplements. Surgery is an option for those with damaged joints who have not benefited from other treatments and still have a significant level of pain or limitation in their ability to function in their daily life. In particular, joint replacement is an important and effective form of treatment for OA of the hip and knee.

Osteoarthritis of the hand(s)
ICD-9 code: 715.4

Description

Osteoarthritis of the hand affects the finger joints and the base of the thumb. This is the only form of the disease that seems to be hereditary. It is more prevalent in women than men, especially after menopause. Diagnostic criteria, developed by the American College of Rheumatology, require that hand pain, aching, or stiffness be present, as well as three or four other symptoms, which include hard tissue enlargement in a selected number of finger joints and the presence of deformity in at least 1 of 10 selected joints.[22] Limited range of motion due to pain and stiffness result in some functional limitations, particularly in the use of hands and fingers. Household activities such as opening jars or washing dishes may be difficult. There is also the potential for (or presence of) significant deformity, which can promote further limitations.

Classification

PD	PF	ES	FA	MT	SR		AN	SP	HE	VI	HF
3	**2**	**1**	**1**	**1**	**1**		**1**	**1**	**1**	**1**	**3**

Osteoarthritis of the lower extremities
ICD-9 code: 715.5 for pelvic region and thigh (hip OA)
ICD-9 code: 715.6 for lower leg (knee OA)

Description

Osteoarthritis of the lower extremities affects the hip(s) or knee(s), and often results in difficulties with certain movements, such as putting on socks or pants, kneeling, squatting, or going up or down stairs. The most common joint affected by OA is the knee. The American College of Rheumatology classification criteria for OA of the hip are presence of hip pain and at least two or three other features, such as limitations in internal rotation of the hip and periods of morning stiffness of 60 minutes or less.[23] Regarding OA of the knee, the criteria are the presence of knee pain and at least 3 other features, including morning stiffness lasting under 30 minutes, bone tenderness, and bone enlargement.[24] An additional criterion (for either diagnosis) is age older than 50 years. Regardless of the site affected, pain, limited range of motion and stiff, swollen joints in the lower extremities impair the ability to perform such tasks as walking, standing, or sitting. This results in limitations in both physical and social functioning. Moderate levels of pain and discomfort are also experienced. Initially, pain is only present with activities such as walking, bending, going up or down stairs, and standing, but over time, pain becomes constant. When pain is constant, it often affects sleep. Frustration and depression may develop as a result.

Classification

PD	PF	ES	FA	MT	SR	AN	SP	HE	VI	HF
3	**3**	**2**	**1**	**1**	**2**	**1**	**1**	**1**	**1**	**1**

Rheumatoid arthritis

Rheumatoid arthritis (RA) is a chronic autoimmune disease in which the body's immune system attacks healthy joint tissue rather than foreign cells. This causes the synovial lining (the envelope that lines the joint and produces the fluid that lubricates the joint) to become inflamed. This inflammation produces a lot of pain, stiffness and swelling of the joints, which limit the ability to use the joints normally. Over time, inflammation leads to damage in the joints, causing progressive deformities (especially of the hands and feet) and reduced ability to move the joints. RA is a systemic disease, resulting in significant fatigue and possibly affecting other parts of the body. It can affect any joint, generally in a symmetrical pattern (i.e., both sides at the same time); the joints most often affected are those in the hands and feet.

The disease varies from person to person: in some people it can be mild, with some pain, but limiting function only slightly (such as having to cut back on leisure activities) and with little or no deformities of the joints; in others, it can be severe, impairing an individual's ability to do even the most basic tasks such as dressing and washing, and leading to severe deformities of the joints. For most people the disease is chronic, with some active inflammation on an ongoing basis, but with fluctuations in the symptoms (pain, swelling, stiffness, fatigue). Periods of acute exacerbations of the symptoms are called "flare-ups" and these can last from a few days to a few weeks. The goal of ongoing treatment is to achieve remission, but complete remission is not often reached. The disease rarely goes into remission on its own. Over time, particularly if the disease is not well controlled, people develop progressively more damage to the joints, with severe joint deformities, loss of joint mobility and progressive loss of physical function. This section will describe the typical case of RA at each stage: an acute flare-up, chronic active inflammation, and the advanced damage stage. Individuals typically move in and out of these stages. There may also be periods of little or no activity (remission), but this is most likely to occur in the first year of the disease; the probability of remission decreases as time progresses. During periods of remission, the disease is almost or completely inactive; therefore, this health state will not be described in this section.

In most cases, the onset of RA is between the ages of 20 and 50, but it can occur at any age, even in childhood (young children can have a form called juvenile RA). About 1% of Canadians are affected with RA,[4] incidence increases with advancing age, in all races and ethnic groups. Women are about three times as likely as men to develop the disease. The predominant symptoms include pain, prominent swelling, and stiffness in the affected joint(s). The pain and stiffness, which are worse in the morning and after prolonged rest or immobility, last for at least 30 minutes upon rising, with increasing duration and intensity when the disease is more active. Increased pain and stiffness in the morning can last up to several hours when the disease is very active. There can also be systemic effects, such as fatigue, malaise, weakness, weight loss, anemia, and occasional fever. Rarely, RA can affect other organs of the

body besides the joints (eyes, skin, nerves, lungs). As the disease progresses, additional joints become affected, with gradual loss of function. Long-term prognosis of RA is poor; approximately 80% of patients experience a reduction in functional capacity within 20 years of disease onset.[25] Complications include progressive joint destruction, loss of mobility, and deformity. The continuous inflammation in the joints accounts for the damage or destruction of the joints. Life expectancy is reduced by between 5 and 10 years in individuals with RA[26] due to both rheumatoid complications and an increase in non-specific causes of death. Cardiovascular disease is the most common increased cause of death in individuals with RA.[27,28]

The causes of RA are largely unknown, but genetic factors likely play a role: the presence of certain genes (associated with the immune system) may increase the risk of developing RA and may predispose the individual to more severe disease.[29-31] Environmental factors also play a role. Diagnosis is based on the overall pattern of the symptoms, physical examination, laboratory tests and x-rays; there is no single test for diagnosing the disease. However, a set of criteria developed by the American College of Rheumatology is typically used in clinical research. An individual is diagnosed with RA if they have at least four of the following seven criteria: morning stiffness in and around the joints lasting at least one hour before maximal improvement; soft tissue swelling (arthritis) of three or more joint areas as observed by a physician; arthritis of finger or wrist joints; symmetric swelling (arthritis in the same joint areas on both sides of the body); rheumatoid nodules; the presence of serum rheumatoid factor; and radiographic erosions in hand and/or wrist joints. The first four criteria must have been present for at least six weeks.[32]

Goals of treatment are to relieve pain, reduce inflammation, stop or slow down joint damage to prevent long-term complications, and improve function and well-being. This involves a combination of medication, rest, exercise, and methods of protecting the joints. Anti-inflammatory drugs can reduce the swelling, pain and stiffness, but they do not prevent damage to the joints. Disease-modifying anti-rheumatic drugs (DMARDs) are a key component of modern treatment because they interfere with the underlying autoimmune rheumatoid process, thereby preventing inflammation in the joints (thus reducing pain, stiffness and swelling) and also preventing damage to the joints (thus slowing the effects of the disease on the joints).[33] DMARDs need to be started early after onset of RA, before irreversible joint damage occurs, and need to be taken continuously throughout the course of the disease. Approximately 90% of patients with RA are treated with DMARDs within three years of diagnosis.[34] Corticosteroids can also be used during periods of flare-ups, or while waiting for DMARDs to take effect. Physiotherapy is an important adjunct therapy. Rest, joint protection, icing and heat can decrease the pain and to a lesser extent, swelling around the inflamed joints. Regular exercise is also essential for maintaining the range of motion of the joints and for strengthening the muscles surrounding the joint, which improves mobility, function, and helps maintain stability of the joints. Use of splints, orthotics and assistive devices also help to reduce pain and improve function. Self-management strategies and patient education are very important to allow people to learn how to live with their disease and how to cope with daily pain, fatigue and other symptoms. When joints become severely deformed or dysfunctional, surgery is necessary. Common surgeries include hand and foot reconstruction (to straighten the fingers and toes), tendon repair, and joint replacements.

Rheumatoid arthritis, acute episode
ICD-9 code: 714.0

Description

During an acute episode (or flare-up), the affected joints are painful, swollen and stiff, causing limited range of motion and potential loss of movement (although temporary). Fatigue is usually more pronounced during a flare-up, and is a direct effect of inflammation as well as lack of sleep due to pain. Increased effort is required to undertake everyday activities. General malaise and fever can be present. The pain experienced is at moderate to severe levels and it is present constantly, even when not using the joints. Increased pain and stiffness in the morning can last up to several hours. The emotional state is affected, as many individuals are angry, irritable and anxious during an acute episode of RA.

Classification

PD	PF	ES	FA	MT	SR	AN	SP	HE	VI	HF
3	**3**	**3**	**3**	**1**	**2**	**2**	**1**	**1**	**1**	**4**

Rheumatoid arthritis, chronic active
ICD-9 code: 714.0

Description

In between periods of flare-ups, the symptoms (particularly pain and stiffness in the joints) are generally less intense than during an acute episode, but usually some degree of pain and stiffness still remains. With treatment with DMARDs, inflammation is usually reduced to a sufficiently low level that pain and stiffness are mild; pain occurs with use and especially overuse of the joints rather than constantly, and it does not interfere with sleep. Participation in leisure activities and household chores may be limited to some degree. Fatigue and low energy levels may also be experienced.

Classification

PD	PF	ES	FA	MT	SR	AN	SP	HE	VI	HF
2	**2**	**2**	**2**	**1**	**1**	**1**	**1**	**1**	**1**	**2**

Rheumatoid arthritis, advanced damage
ICD-9 code: 714.0

Description

During the advanced stage, there is destruction of the affected joints, with severe deformities and loss of mobility, making it difficult to use the joint normally and sometimes causing pain. This also causes loss of function. Physical changes result in limitations in physical functioning, decreasing the ability to work and fulfill a normal, happy life, including participation in leisure activities. Deformities can make basic tasks difficult or impossible, which can lead to depression, low self-esteem, and helplessness. Sexual functioning may also be impaired, particularly with higher levels of pain, physical disability and depression.[35] Anxiety is generally present at moderate levels, due to the potential for developing (or the presence of) complications.

Classification

PD	PF	ES	FA	MT	SR	AN	SP	HE	VI	HF
2	**3**	**4**	**3**	**1**	**3**	**3**	**1**	**1**	**1**	**4**

Systematic lupus erythematosus

Lupus erythematosus is a chronic, rheumatic autoimmune disease. This means that the immune system produces antibodies that attack the body's own healthy tissues and organs, including the joints, kidneys, heart, lungs, brain, blood, or skin. These antibodies, called autoantibodies, contribute to the inflammation of various parts of the body and can cause damage to organs and tissues. Most people experience symptoms such as skin manifestations, arthritis, mouth ulcers, hair loss and fatigue, but symptoms vary from person to person. Systemic lupus erythematosus (SLE), involving multiple parts of the body (beyond the skin), is the most common type of lupus, and is therefore the focus of the current section.

It is estimated that approximately 15,000 (1 in 2,000) Canadians are affected with SLE.[3] It can appear in both men and women of all ages, but develops most often between the ages of 15 and 44. In this age group, SLE occurs about 10 times more frequently in adult women than men. Among those under 15 and older than 45, however, it is equally common in men and women. It is more common among African Americans and Asians. It is also more common and more severe among Aboriginal people.[5, 36]

Early symptoms of SLE include pain in joints and muscles, skin rash (especially on the face), a persistent low-grade fever and fatigue. Other manifestations of the disease include swollen glands, lack of appetite, sensitivity to sunlight, unusual loss of hair (alopecia), oral ulcers, dry eyes and mouth, arthritis, serositis (inflammation of the lining around the heart, lungs, and/or abdomen, causing pain and difficulty taking a deep breath), nausea, vomiting and diarrhea, weight loss, Raynaud's phenomenon (the fingers and toes may turn white or blue in the cold due to poor circulation), abnormalities of the blood cells (anemia, low platelet count, which can cause bleeding) or low white blood cell count (which can lead to severe infections), increased risk of clots in the veins of the limbs (deep venous thrombosis) or in the arteries to the brain (stroke). Severe internal organ involvement includes kidney problems (leaking of proteins and cells into the urine, which can lead to renal failure requiring dialysis or kidney transplant), lung problems (inflammation or bleeding in the lungs leading to difficulty breathing), heart problems (destruction of valves in the heart, coronary artery disease causing chest pains due to angina), involvement of the brain or nerves with loss of sensation or muscle weakness and various other neurological manifestations. Symptoms can range from mild to life-threatening; severe involvement of the brain, lungs, heart and kidneys lead to a poor prognosis in terms of overall survival and disability. However, for most people, lupus is a mild disease, affecting only a few organs, although some SLE cases have severe organ involvement.

Researchers do not know what causes lupus, although scientists believe there is a genetic predisposition to the disease: up to 5% of children born to individuals with lupus will develop the disease.[37,38] Environmental factors, which include infections, antibiotics, ultraviolet light, extreme stress, and certain drugs, also play a role in triggering the disease. Furthermore, hormonal factors may explain why lupus occurs more frequently in females.

There is no single test that can identify lupus; it may take months or even years for doctors to accurately diagnose. Clinical diagnosis of SLE requires the presence of at least 4 of the 11 American College of Rheumatology classification criteria. These criteria are: malar ("butterfly") rash over the cheeks of the face; discoid skin rash (patchy redness on the skin); photosensitivity; oral ulcers; arthritis in two or more joints of the extremities; serositis; renal disorder; neurologic disorder; blood count abnormalities; immunologic disorder; and antinuclear antibodies.[39]

SLE appears in cycles; the disease tends to wax and wane, with periods of exacerbations of the disease (or acute flare-ups) when the disease becomes more active, with more symptoms and possible involvement of a new internal organ not previously affected, and periods of chronic low grade disease activity, in which some symptoms are present but not as severe as during a flare-up. Flare-ups can last from days to weeks, and occasionally months. Rarely, the disease can go into remission, when there are few or no symptoms. In addition, over time, individuals may be left with some damage that accumulates in different organs, from previous active SLE in these organs. The duration and pattern of these cycles are highly variable from individual to individual. Over time, people can be left with permanent damage in some parts of their bodies from acute exacerbations involving internal organs (such as a stroke or nerve damage, end stage renal disease requiring dialysis, scarring in the lungs causing breathlessness).

There is no cure, but for the vast majority of people with lupus, effective treatment can minimize symptoms, reduce inflammation and maintain normal capabilities of the body and immune system. The primary goal is to protect organs from damage by decreasing inflammation and/or the level of autoimmune activity in the body. Treatment approaches are based on the specific needs and symptoms of each person. The variety of medications commonly used depends on the organ(s) involved and the degree of involvement. Generally, mild symptoms (skin rashes, hair loss, ulcers, chest pain, arthritis) are treated with antimalarial agents and with non-steroidal anti-inflammatories (NSAIDs). More severe internal organ involvement requires the use of immunosuppressants, i.e., medications that suppress the immune system. Corticosteroids are often used in small doses for short periods to control flare-ups and in higher doses for longer periods of time to control internal organ involvement. With treatment, SLE can be controlled. However, it should be noted that long-term treatment of severe SLE with corticosteroids and immunosuppressants can have multiple and sometimes considerable side effects. For example, there is an increased risk of infections and of cancer, especially lymphomas, and long term corticosteroid use often results in osteoporosis (thinning of the bones) and increases the risk of diabetes, hypertension and coronary artery disease.[40]

Systemic lupus erythematosus, acute episode
ICD-9 code: 710.0

Description

SLE is sometimes called "the disease with 1000 faces" because there is no real, "typical" case. Clinical diagnosis, however, requires the presence of at least 4 of 11 criteria developed by the American College of Rheumatology. The most common symptoms of SLE, which include fatigue, skin rashes, intermittently sore and swollen joints, mouth ulcers, hair loss, dry eyes and mouth and chest pain, tend to increase during periods of flare-ups, with prominent fatigue and often low-grade fever. Severe internal organ involvement can also develop during periods of flare-ups. These symptoms result in moderate levels of pain and discomfort and mild limitations in physical functioning, depending on the severity of the flare-up. During active periods, they often contribute to limitations in social relationships (because of prominent fatigue as well as pain). Skin rashes may lead to social withdrawal; arthritis (and fatigue) can limit activities and work. Emotional state is affected as well; often people with lupus experience anxiety, depression and a sense of hopelessness due to the chronic, waxing and waning nature of the condition and its potential for developing complications. Prolonged and extreme fatigue may be experienced; it typically stems from the disease itself but can also be the result of medication-related complications (such as anemia). Reduced attention span and mild cognitive dysfunction is very common, particularly during flare-ups of SLE.

Classification

PD	PF	ES	FA	MT	SR	AN	SP	HE	VI	HF
3	**2**	**3**	**3**	**2**	**2**	**2**	**1**	**1**	**1**	**3**

Systemic lupus erythematosus, chronic active
ICD-9 code: 710.0

Description

During the chronic active stage (in between periods of flare-ups), the most common symptoms of SLE tend to come and go. The intensity of the symptoms is highly variable, depending on individual disease and potentially varying over time for each individual. Severe internal organ involvement is typically during flare-ups, although occasionally some may be chronically involved. With treatment, most people have mild levels of pain and discomfort, mainly due to ongoing arthritis, mouth ulcers, dry eyes and mouth, and mild limitations in physical functioning. Fatigue is often a symptom that never completely goes away and is an important cause of limitation in function and social relationships (due to the lessened stamina for usual activities). Reduced attention span and mild cognitive dysfunction may persist (even when not in a flare-up).

Classification

PD	PF	ES	FA	MT	SR	AN	SP	HE	VI	HF
2	**2**	**1**	**2**	**1**	**1**	**2**	**1**	**1**	**1**	**2**

Fibromyalgia

Fibromyalgia is a condition involving chronic musculoskeletal pain accompanied by excessive fatigue and exhaustion. Typically, the pain is located in the muscles and soft tissues surrounding the joints and in skin and organs throughout the body. Often onset is subtle, possibly affecting only one area, but over time, multiple sites are affected. The most common sites of pain include the neck, back, shoulders, arms, and legs, but any body part can be involved. Although symptoms vary in intensity and pain can be very severe, fibromyalgia is not life-threatening, nor does it lead to muscle or joint damage.

Fibromyalgia can develop in children; however, onset typically occurs during early to middle adulthood, and incidence increases with age. It is estimated that fibromyalgia affects 900,000 Canadians,[6] or approximately 3% of the population.[4,5] Women are estimated to be four to nine times more likely to develop the disease than men.[6,41-44]

Generally, symptoms of fibromyalgia follow a chronic, waxing and waning pattern (i.e., symptoms increase and decrease over time). Although they may never disappear completely, symptoms are not progressive; most individuals tend to improve with time. Pain and tenderness are the defining symptoms. Most individuals with fibromyalgia also experience sleep problems; often they can fall asleep but wake up repeatedly throughout the night, thereby preventing a deep, restorative sleep. This causes them to wake up tired; daytime fatigue is a prominent symptom. A neurological symptom (referred to as restless leg syndrome) is also common, which causes the limbs to move periodically during sleep. Additional symptoms include exhaustion, anxiety, depression, numbness, morning stiffness, irritable bowel symptoms (constipation alternating with diarrhea), temporomandibular joint disorder (TMJ, which affects the jaw joints and surrounding muscles resulting in facial pain), headaches and migraines, and impaired memory and cognitive functioning. Symptoms often vary depending on weather, stress, time of day, and physical activity level. Intensity of the symptoms is extremely variable from person to person; some individuals are almost completely incapacitated, while others are only mildly so. The health state described in this section represents the average (typical) case of fibromyalgia.

The causes of fibromyalgia are unknown, but several contributing factors, such as an infectious illness or trauma, have been hypothesized. Exposure to a physical, emotional, or environmental stressor may act as a trigger in predisposed individuals (genetic factors appear to play a role) and also tend to cause exacerbation of the symptoms. Chemical abnormalities in the brain may result in pain amplification (due to abnormal sensory processing). It has also been suggested that sleep disturbances are not only symptoms, but a potential cause of fibromyalgia.[42-45]

Although there is currently no laboratory or diagnostic test for fibromyalgia, the American College of Rheumatology has developed a set of criteria, based on patient symptoms, to be used in clinical practice. These criteria include the presence of widespread pain (pain in all four quadrants of the body: the left side, right side, below the waist, above the waist) for a duration of at least three months and pain in response to low levels of pressure (less than 4 kg) in 11 of 18 tender point sites on the body.[46] (Tender points are located in precise areas of the body, particularly in the neck, shoulder, spine, and hips.)

Fibromyalgia has no known cure, and therefore must be managed as a chronic condition. Treatment is aimed at easing pain and improving sleep, and includes medication, physical therapy, and self-management. Pharmacological treatments are typically not very effective at relieving pain. NSAIDs can provide some pain relief; antidepressants are more useful to help reduce pain, relax muscles and promote sleep. SSRIs (Selective Serotonin Reuptake Inhibiters) may also be prescribed to patients who are suffering from both fibromyalgia and depression (which commonly accompanies fibromyalgia and aggravates the symptoms). Acupuncture or therapeutic massage may help to alleviate pain by breaking up the trigger points and muscle spasms. Most importantly, self-management is an integral part of improving symptoms and managing the condition. Stretching and exercising daily help to reduce pain (although the exact mechanism is not understood), to maintain muscle strength and physical function and reduce muscle stiffness. Regular exercise also improves sleep. Relaxation exercises reduce stress that may potentially bring on symptoms. Furthermore, avoiding daytime napping and caffeine intake, and practicing effective sleep management (going to bed and getting up at the same time every day) may help to improve sleep. In general, little treatment is required for individuals with mild symptoms (especially once they understand how to avoid actions that trigger/worsen their symptoms), whereas a comprehensive treatment regimen is necessary for individuals with more severe symptoms.

Fibromyalgia, chronic
ICD-9 code: 729.0

Description

For an individual diagnosed with fibromyalgia (based on the presence of widespread pain for a period of at least 3 months and sensitivity to pain in 11 of 18 tender points on the body), pain varies in severity from day to day, and may change location. The pain generally consists of burning, aching and soreness that is typically more severe in parts of the body that are used the most (such as the feet, causing difficulty walking or standing). Severe pain can interfere with the performance of even simple tasks, causing occupational and social impairments. Fatigue is generally strong, often to the point of exhaustion, resulting in decreased endurance and a limited ability to function physically and mentally. Memory, concentration, and attention are impaired, particularly when exhaustion is most intense. Anxiety and depression are experienced at moderate levels. Symptoms also common in individuals with fibromyalgia include bladder spasms (that cause frequent or urgent urination), symptoms associated with irritable bowel syndrome (constipation, diarrhea), and migraines, which contribute to discomfort and limitations in social functioning.

Classification

PD	PF	ES	FA	MT	SR	AN	SP	HE	VI	HF
3	**2**	**3**	**3**	**4**	**2**	**3**	**1**	**1**	**1**	**1**

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Arthritis Foundation
http://www.arthritis.org

Arthritis Society
http://www.arthritis.ca

Lupus Canada
http://www.lupuscanada.org

Lupus Foundation of America
http://www.lupus.org

National Fibromyalgia Association
http://fmaware.org

National Institute of Arthritis and Musculoskeletal and Skin Diseases
http://www.niams.nih.gov